AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 1, line 7 as follows:

The present invention relates to a power-save computing apparatus and method for suppressing a fluctuation in a totally consumed power of one or more power-consuming devices suitably applicable to processor systems provided with a CPU (central processing unit), a power-save computing program and a program product.

Please amend the paragraph beginning on page 1, line 14 as follows:

Mobile phones, laptop personal computers and like systems that are made portable by supplying [[a]] power by means of a battery have been spread in use. Such systems have adopted various power-save technologies for suppressing [[a]] power to be consumed in order to effectively use the limited power. Such power-save technologies include those for suppressing the power to be consumed for each of devices contained in the system and those for suppressing the power to be consumed in view of the entire operation of the system (see Japanese Unexamined Patent Publication No. H08-314587 (page 7, FIG. 1).

Please amend the paragraph beginning on page 1, line 23 to page 2, line 8 as follows:

However, the conventional power-save technologies have a problem that a fluctuation in the consumed power of the entire system per unit time cannot be suppressed when the operative state of the power-consuming device changes and accordingly, the consumed power of this device fluctuates. Batteries have such a characteristic that a charged energy is lost within a shorter time as the consumed power largely fluctuates even if a total amount of the consumed

power is same. Accordingly, the conventional power-save technologies cannot suppress the waste of the charged energy of the battery resulting from the fluctuation in the consumed power, thereby presenting a problem of unnecessarily shortening the life of the battery (i.e., period until the charged energy is lost).

Please amend the paragraph beginning on page 3, line 18 as follows:

FIG. 8 is a plurality of graphs showing the operation of the power-save computing apparatus of FIG. 1,

Please amend the paragraph beginning on page 3, line 20 as follows:

FIG. 9 is a plurality of graphs showing the operation of the power-save computing apparatus of FIG. 1,

Please amend the paragraph beginning on page 3, line 22 as follows:

FIG. 10 is a plurality of graphs showing the operation of the power-save computing apparatus of FIG. 1,

Please amend the paragraph beginning on page 3, line 24 as follows:

FIG. 11 is a plurality of graphs showing the operation of the power-save computing apparatus of FIG. 1,

Please amend the paragraph beginning on page 4, line 1 as follows:

FIG. 12 is a plurality of graphs showing the operation of the power-save computing apparatus of FIG. 1, and

Please amend the paragraph beginning on page 4, line 9 to page 5, line 3 as follows:

FIG. 1 is a block diagram showing one example of a system including a power-save computing apparatus according to one embodiment of the present invention. This system 200 is constructed as a mobile communication apparatus and provided with a power supply source 17, a power-consuming device group 18, and a power-save computing apparatus 101. The power supply source 17 is for supplying ~~powers~~ power to the respective devices included in the power-consuming device group 18 and is a battery in an example of FIG. 1. The power-consuming device group 18 includes at least one power-consuming device and, in the example of FIG. 1, includes a CPU 11, a HDD (hard disk drive) 12, a RAM (random access memory) 13, a power amplifier 14, a backlight 15, and a communication CPU 16. The CPU 11 is adapted to realize functions of the system 200 such as a communication function, a displaying function, a data saving function and a data reading function in accordance with a program stored in the RAM 13 or the HDD 12. The power amplifier 14 is an amplifier for amplifying, for example, a signal that the system 200 sends to a base station. The backlight 15 is a light source used, for example, for an LCD (liquid crystal display). The communication CPU 16 is a CPU particularly in charge of a communication interface function among the functions of the system 200 in accordance with the program stored in the RAM 13 or the HDD 12.

Please amend the paragraph beginning on page 5, line 13 to page 6, line 15 as follows:

The power-save computing apparatus 101 may be constructed by [[a]] hardware which requires no program, but is preferably realized by a CPU which operates in accordance with a program. This enables the power-save computing apparatus 101 to be more simply constructed and also enables changes of the devices forming the power-consuming device group 18, i.e. addition and deletion of the devices, to be more flexibly dealt with. The program (hereinafter, power-save computing program) for realizing the functions of the power-save computing apparatus 101 corresponds to an operating system for specifying basic operations by the CPU. The power-save computing program is stored, for example, in the RAM 13 or the HDD 12 (corresponding to a specific example of a storage of the present invention). The power-save computing program can be supplied via a storage medium 31 such as a ROM (read only memory), a flexible disk or a CD-ROM and also via a transmission medium 33 such as a telephone line or a network. In FIG. 1, a CD-ROM is shown as the storage medium 31 and a telephone line connected via the communication CPU 16 as a communication interface is shown as the transmission medium 33. The power-save computing program stored in the CD-ROM can be read by additionally connecting a CD-ROM reader 32 with the power-consuming device group 18 and can be stored in the HDD 12 or the RAM 13. In the case of supplying the power-save computing program in the form of a ROM as the storage medium 33, the power-save computing apparatus 101 can execute a processing in accordance with the power-save computing program by adding this ROM to the power-consuming device group 18. The power-save computing program supplied via the transmission medium 33 is received via the communication

CPU 16 and stored, for example, in the HDD 12 or the RAM 13. The transmission medium 33 is not limited to a wired transmission medium and may be a wireless transmission medium.

Please amend the paragraph beginning on page 6, line 16 to page 7, line 5 as follows:

The CPU for realizing the functions of the power-save computing apparatus 101 may be separate from the CPU 11, but is more preferably the same with the CPU 11. If the CPU for realizing the functions of the power-save computing apparatus 101 is the same with the CPU 11, there ~~are~~ is not only an advantage of not requiring a CPU for exclusive use to be separately provided, but also an advantage of accomplishing the suppression of a fluctuation in the total consumed power of the system 200 including the power-save computing apparatus 101 itself. Alternatively, the CPU for realizing the functions of the power-save computing apparatus 101 may be constructed separately from the CPU 11 and may be incorporated into the power-consuming device group 18 together with the CPU 11 to be controlled by the power-save computing apparatus 101. Thus, the power-save computing apparatus 101 is not necessarily constructed separately from the power-consuming device group 18 and rather desirably included in the power-consuming device group 18.

Please amend the paragraph beginning on page 7, line 6 as follows:

The ~~devices~~ device information administrator 21 holds the operative states of the respective devices as input information and, upon a fluctuation in the consumed power of the entire power-consuming device group 18 (referred to as a total consumed power), determines and outputs a consumed power to be changed in one or more devices in the power-consuming device

group 18 (hereinafter, merely "consumed power to be changed") in order to compensate for this fluctuation and make the resulting fluctuation in the total consumed power as small as possible. The device information administrator 21 determines how much the total consumed power should be changed without specifying the device whose consumed power to be changed and outputs the determination result. For example, if the total consumed power fluctuates from 100 W to 120 W, the device information administrator 21 outputs -20 W as the consumed power to be changed in order to keep the fluctuation in the total consumed power at a minimum level.

Please amend the paragraph beginning on page 9, line 15 as follows:

FIG. 3 shows one example of the command conversion table 24. In the example of FIG. 3, when the consumed power to be changed is -10W, there ~~are~~ is a command to change an operation clock frequency for the CPU 11 by -10Hz, i.e. to reduce the operation clock frequency for the CPU 11 by 10 Hz, and a command to cut the power supply to the RAM 13 off. If any of these two commands is executed, the content in the left-end column, i.e. to change the consumed power of the device in the power-consuming device group 18 by -10W to minimize a fluctuation in the total consumed power can be realized.

Please amend the paragraph beginning on page 15, line 6 as follows:

The information carried by the command conversion table 24 is also renewed by the information on the respective devices held by the device information administrator 21. As already shown, the command conversion table 24 may carry only the command for one specific

device or may carry the commands for one ~~ore~~ or more devices. The command conversion table 24 does not carry the command for ~~the~~ a device uncontrollable by the device controller 25.

Please amend the paragraph beginning on page 18, line 17 as follows:

FIG. 6 is a flow chart showing ~~on~~ an operation procedure of the device information administrator 21 of the power-save computing apparatus 101 according to this embodiment. The device information administrator 21 administers the information on the devices within the power-consuming device group 18 (Step S201). The device information administrator 21 judges whether any device has been added (Step S202) and further judges whether this device is controllable (Step S203) if some device has been added. If this device is controllable, the device information administrator 21 adds a command for this device to the command conversion table 24 of the power-save determinator 23 (Step S204). If the device is judged to be uncontrollable in Step S203, the device information administrator 21 continues to administer the information on the devices within the power-consuming device group 18.